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EXAMINER

CHANG, EDITH M

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| ART UNIT | PAPER NUMBER |
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2637

DATE MAILED: 11/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------------|--|--|
| Office Action Summary | Application No. 09/186,977 | Applicant(s) ARMISTEAD, R. ASHBY | |
| | Examiner Edith M Chang | Art Unit 2637 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 November 1998 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Applicant's arguments, see pages 9-12, filed July 16, 2004, with respect to the rejection(s) of claim(s) 1-35 under 35 U.S.C. 103 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Biba et al. Due to the system processing delay, the previous final action is withdrawn, a new ground of rejection is made.

Drawings

2. The drawings are objected to because in Figure 3, it needs to add the label "modem card" to numeral 50, "TDM bus" to numeral 52, "card bus" to numeral 54, "IP data bus" to numeral 60 and "control bus" to numeral 62; in Figure 4, add the label "modem card" to numerals 50, 70, 72 and 74, "IP data bus" to numeral 60, "TDM data bus" to numerals 52 and 76 and "control bus" to numerals 62 and 82.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the

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renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

3. Claims 1-21 are objected to because of the following informalities:

Claim 1, line 7: "provide data" is suggested changing to "provide the data"; line 9: "that internal state information" is suggested changing to "that the internal state information"; and line 13: "said first resource" is suggested changing to "said first data-handling resource".

Claim 14, line 9: "internal state information" is suggested changing to "the internal state information"; and line 9-10: "said data-handling" is suggested changing to "said N+1 data-handling".

Claim 15, lines 2-3: "said conditions" is suggested changing to "said one or more conditions".

Claims 17 & 18, line 1: "said data-" is suggested changing to "said N+1 data-".

Claim 19, lines 9 & 11: "said data-handling" is suggested changing to "said N data-handling".

Claim 20, line 1: "said data-handling" is suggested changing to "said N data-handling"; and line 2: "said first connection" is suggested changing to "said first data connection".

Claim 21, line 2: "a first data" is suggested changing to "the first data".

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Claims 3-13 and 16 are directly or indirectly dependent on the objected claims 1 and 14.

Appropriate corrections are required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 2-7 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 2; "said first data-handling resource comprise a first digital signal processor, and said second data-handling resource comprises a second digital signal processor" is not described in the specification or shown in the disclosure of the drawings, wherein the FIG.1 is for the first embodiment with two data-handling resources and FIG.3 is for the third embodiment (yet another embodiment) of a modem card.

Claims 3-7 are directly or indirectly dependent on the rejected claim 2.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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7. Claims 5-7, 14-21 and 34-35 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 5, line 3: "a common bus" does not clearly indicate the same bus cited in claim 1 or the other bus. It is not understood that how does the second *digital signal processor* share a bus with the first *circuit card*.

Claim 14, lines 13-14: "said N first data-handling resources" lacks antecedent basis.

Claim 19, lines 14-15, "said N first data-handling resources" lacks antecedent basis.

Claim 21, line 3: the term "N first resources" does not clearly indicate that what are the "N first resources" of the N data-handling resources.

Claim 34, line 2: "frame receipt information" does not clearly indicate that it is the "frame acknowledgement information" cited in claim 33 or another kind of information.

Claim 35, lines 1-2: "transmitted frames" lacks antecedent basis.

Claims 6-7, 15-18 and 20 are directly or indirectly dependent on the rejected claims 5, 14 and 19.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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9. Claim 1-2, 4-7, 14-21 and 25-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bellenger et al. (US 6,263,016 B1) (previously cited) in view of Biba et al. (US 4,521,891) (newly cited).

Regarding **claims 1 & 28**, in FIG.4, Bellenger et al. discloses a multiple-modem system/a data communication interface and the method, comprising: a data bus element 410 connecting multiple DSPs (or data-handling resources: elements 414 on cards 400A, 402, 404, 406 and 408) handling the data from the connections of the subscriber lines, wherein the DSP 414 (the primary modem) is *the first data-handling resource* and the DSP 424 (the backup/local) is *the second data-handling resource, the controller* 404 directing the data connections between DSPs, when the first DSP 414 is idle, not appropriate to use or not turned to the normal (data should not direct to it, column 6 lines 15-20), the data from the connection is directed to the second/backup DSP 424 (FIG.13A-13B, when the primary DSP session/connection is idle tested at 1210, the data is directed to the second/backup DSP at 1218) without loss the connection. The DSPs (elements 414 & 424), the data-handling resources, connected to *the memory* (elements 420 and 430) to save and retrieve the internal information regarding the connections (column 13 lines 1-60 wherein the info in the table/memory contains the info for all DSP resources column 13 lines 30-35) such as the data transformation information, session logs, etc. (column 13 lines 40-55, column 16 lines 35-40, wherein the record of the subscriber table containing the data transformation) which are dynamically/continually brought up to date to make available/usable by repeating the saving and retrieving during the connection and session (column 19 lines 22-25, or in a round robin manner). However, Bellenger et al. does not explicitly specify the link control information.

Biba et al. teaches the data/packet (Fig_8) stored in the multiple-modem system/method in RAM 240 of FIG_7 and column 12 lines 1-5, wherein the data/packet containing the link control information: the frame acknowledgement ACK in Fig_8B. As Bellenger et al.'s multiple-modem system and method handling the data of multiple sessions or connections, at the time of the invention, it would have been obvious to a person of ordinary skill in the art to store the acknowledgement of the link control information taught by Biba et al. in the internal information to control the flow for the purpose of not losing data of the session and increasing the capacity by storing the link control info for the multiple connections (column 2 lines 40-45, column 3 line 10).

Regarding **claim 2**, Bellenger et al. discloses the first data-handling resource/modem comprising a first digital signal processor (424 FIG.4), and the second data-handling resource comprises a second digital signal processor (414 FIG.4).

Regarding **claim 4**, Bellenger et al. discloses the data-handling resource controller and the resource internal state memory also reside on the common circuit card (404 FIG.4).

Regarding **claim 5**, Bellenger et al. discloses the first digital signal processor/modem resides on a first circuit card (402 FIG.4) within the interface, and wherein the second digital signal processor/modem resides on a second circuit card (400A FIG.4) within the interface and sharing a common bus (410 FIG.4) with the first circuit card.

Regarding **claims 6 & 7**, Bellenger et al. discloses the data-handling resource controller resides on a third circuit card within the interface (404 FIG.4), and the resource internal state memory (432 FIG.4) also resides on the third circuit card.

Regarding **claims 14-17**, Bellenger et al. discloses a multiple-modem system

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and a data communication interface comprising: a data bus element 410 connecting multiple $N+1$ DSPs (N elements 414 on cards 400A, and one is the 424 of local DSP performing the modem function) handling the data from the connections of the subscriber lines, wherein the DSPs 414 (the primary) are the first N data-handling resources and the DSP 424 (the backup/local) is the $N+1$ the data-handling resource, the controller 404 directing the data connections between DSPs, when any one of the first/primary DSPs 414 is idle, not appropriate to use or not turned to the normal (data should not direct to it), the data from the connection is directed to the $N+1$ th backup DSP 424 (FIG. 13A-13B, when the primary DSP is idle tested at 1210, the data is directed to the second/backup DSP at 1218) without loss the connection. The DSPs (elements 414 & 424), the data-handling resources, connected to the memory (elements 420 and 430) to save and retrieve the internal information regarding the connections (column 13 lines 1-60) such as the data transformation information, session logs, etc. (column 13 lines 40-55) dynamically during the connection and session. However, Bellenger et al. does not explicitly specify the link control information.

Biba et al. teaches the data/packet (Fig_8) stored in the multiple-modem system/method in RAM 240 of FIG_7 and column 12 lines 1-5, wherein the data/packet containing the link control information: the frame acknowledgement ACK in Fig_8B. As Bellenger et al.'s multiple-modem system and method handling the data of multiple sessions or connections, at the time of the invention, it would have been obvious to a person of ordinary skill in the art to store the acknowledgement of the link control information taught by Biba et al. in the internal information to control the flow for the purpose of not losing data of the session and increasing the capacity

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by storing the link control info for the multiple connections (column 2 lines 40-45, column 3 line 10).

Regarding **claim 18**, in FIG.5, Bellenger et al. discloses the voice codec (elements 418 & 502) to sample the signal from the subscriber lines 1-24.

Regarding **claim 19**, Bellenger et al. discloses a multiple-modem system and a data communication interface comprising: a data bus element 410 connecting multiple N DSPs (or data-handling resources: elements 414 on cards 400A & the 424 of local DSP in 104A of FIG.1A, and the remote DSPs at 106 FIG.1A stated in column 12 lines 60-65) handling the data from the connections of the subscriber lines, the controller 404 directing the data connections between DSPs, when any one of the DSPs in the line card is idle, not appropriate to use or not turned to the normal (data should not direct to it), the data from the connection is directed to the another DSP, the backup DSP (FIG.13A-13B, when the primary DSP in the line card is idle tested at 1210, the data is directed to the backup DSP at 1218) without loss the connection. The DSPs, the data-handling resources, connected to the memory (elements 420 and 430) to save and retrieve the internal information regarding the connections (column 13 lines 1-60) such as the data transformation information, session logs, etc. (column 13 lines 40-55) dynamically/continually brought up to date to make available/usable by repeating the saving and retrieving during the connection and session. However, Bellenger et al. does not explicitly specify the link control information.

Biba et al. teaches the data/packet (Fig_8) stored in the multiple-modem system/method in RAM 240 of FIG_7 and column 12 lines 1-5, wherein the data/packet containing the link control information: the frame acknowledgement ACK in Fig_8B. As Bellenger et al.'s multiple-

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modem system and method handling the data of multiple sessions or connections, at the time of the invention, it would have been obvious to a person of ordinary skill in the art to store the acknowledgement of the link control information taught by Biba et al. in the internal information to control the flow for the purpose of not losing data of the session and increasing the capacity by storing the link control info for the multiple connections (column 2 lines 40-45, column 3 line 10).

Regarding **claim 20**, in FIG.13A & FIG.13B, Bellenger et al. discloses the controller drops the connection at 1212B when all resources do not take the connection.

Regarding **claim 21**, in FIG.13A & FIG.13B, Bellenger et al. discloses directing the data from the connection to any idle resource having capacity to handle the data at 1326 FIG.13A by responding session/connection idle indication.

Regarding **claims 25 & 27**, in FIG.4/FIG.5, Bellenger et al. discloses the modem and its method, the modem resource DSP 402/414 comprising the memory element 422/522 for storing internal state configuration of the modem, the element 416 communicates the information stored in the element 422/522 to other device or receiving pre-existing information from other modem DSP via the bus 410, wherein the information (column 13 lines 1-60) containing the data transformation information, session logs, etc. (column 13 lines 40-55) dynamically/continually brought up to date. Hence Bellenger et al. discloses a modem comprising an internal state configuration (in element 422/522) and an external state-saving/loading subsystem (elements 416) as cited in the claim. However, Bellenger et al. does not explicitly specify the link control information.

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Biba et al. teaches the data/packet (Fig_8) stored in the multiple-modem system/method in RAM 240 of FIG_7 and column 12 lines 1-5, wherein the data/packet containing the link control information: the frame acknowledgement ACK in Fig_8B. As Bellenger et al.'s multiple-modem system and method handling the data of multiple sessions or connections, at the time of the invention, it would have been obvious to a person of ordinary skill in the art to store the acknowledgement of the link control information taught by Biba et al. in the internal information to control the flow for the purpose of not losing data of the session and increasing the capacity by storing the link control info for the multiple connections (column 2 lines 40-45, column 3 line 10).

Regarding **claim 26**, in FIG. 5, Bellenger et al. discloses an external state-saving/loading subsystem (element 416) by loading the pre-existing internal state configuration from other modem to pre-configure the modem for a pre-existing data connection.

Regarding **claim 29**, in FIG.4, Bellenger et al. discloses the DSP 424 (the backup/local) comprising a redundant resource.

Regarding **claims 30 & 31**, in FIG.4, Bellenger et al. discloses the DSP 414 receiving multiple simultaneous data connections from lines 1-14, and the information of the data connections stored in the memory is available to the local second (the backup) DSP or transferring the remote backup DSPs at 106 or 104B in FIG.1A based on the algorithm set in FIG.13A & FIG.13B where the resources having excess capacity processing the connections.

Regarding **claim 32**, Bellenger et al. discloses changing the internal state information depending on the information loaded in (column 13 lines 25-30).

Regarding **claims 33-35**, Bellenger et al. does not specify the frame acknowledgement,

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however in FIG.7 and FIG.8, Biba et al. teaches the data/packet stored in the multiple-modem system/method in RAM 240 and column 12 lines 1-5, wherein the data/packet containing the frame acknowledgement ACK in FIG.8B and sending the acknowledgement till storage is full that is all received data(or the data transmitted to the modem) saved (column 13 lines 30-50). As Bellenger et al.'s multiple-modem method handling the data/packet, at the time of the invention, it would have been obvious to a person of ordinary skill in the art to store and send the acknowledgement taught by Biba et al. to control the flow for the purpose of not losing data and increase the capacity.

10. Claims 3 & 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bellenger et al. (US Patent 6,263,016 B1) in view of Biba et al. (US 4,521,891) as applied to claim 1 above, and further in view of in view of Green et al. (US 5,949,762) (previously cited).

Regarding **claim 3**, further Green et al. teaches the first and second digital signal processors reside on a common circuit card within the interface (68 FIG.2 & 3, column 6 lines 18-40 where the DSPs 68 reside on a card 58 FIG.2). As Bellenger et al.'s multiple modems system, at the time of the invention, it would have been obvious to a person of ordinary skill in the art to have the first and second digital signal processors residing on a common circuit card taught by Green et al. for the purpose to process multiple calls/connections simultaneously for DSPs allocated in one card and save the cost (column 1 lines 57-60, column 2 lines 37-47).

Regarding **claim 8**, Bellenger et al. discloses the first data-handling resource and the second data-handling resources (the DSPs of line cards FIG.4, the DSPs of 402 and 602 FIG.4 & 6, column 36 lines 10-14) but does not specify the multiple digital signal processors in one card.

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However Green et al. teaches the multiple digital signal processors reside on a common circuit card (68 FIG.2 & 3, column 6 lines 18-40 where the DSPs 68 reside on a card 58 FIG.2). As Bellenger et al.'s method passing the connections from one resource (the primary DSP) to other resources simultaneously (the backup DSP resources column 12 lines 50-65 where the primary DSP is bypassed), at the time of the invention, it would have been obvious to a person of ordinary skill in the art to have Bellenger et al.'s first and second data-handling resources replaced by the multiple-modem board taught by Green et al. for the purpose to provide a modem or multiple modems for processing multiple calls simultaneously (Abstract, column 1 lines 57-60, column 2 lines 37-47).

Regarding **claim 9**, Bellenger discloses each circuit card comprise a card internal state memory saving the information from the DSP of the card (420/430 FIG.4).

Regarding **claims 10 & 11**, the modified Bellenger's interface with Green et al.'s teaching the first data-handling resource receives multiple simultaneous data connections and the second data-handling resource receives the selected connection by the conditions.

11. Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bellenger et al. (US Patent 6,263,016 B1) in view of Biba et al. (US 4,521,891) as applied to claim 12 above, and further in view of Osler et al. (US 6,038,222) (previously cited).

Regarding **claims 12 & 13**, in FIG.13, Bellenger teaches the condition is session idle/end, and it is well-known that the failure or removal of the first data-handling resource causing the link failure in terms the session does not turn to normal use (in idle) as taught by Osler et al. in FIG.2, column 3 lines 20-25 and column 4 lines 5-15 that the link failure or terminate link idles

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the modem session. Therefore, at the time of the invention, it would have been obvious to a person of ordinary skill in the art to have the Osler et al.'s teaching in Bellenger's condition comprising the resource failure or removal that causes the session idle by reset the modem software or terminate link to simplify the command set for the purpose of reduce the DSP circuitry complexity (column 2 lines 3-5).

12. Claims 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bellenger et al. (US Patent 6,263,016 B1) in view of Biba et al. (US 4,521,891) and Osler et al. (US 6,038,222).

Regarding **claim 22**, in FIG.4, Bellenger et al. discloses a multiple-modem subsystem, comprising: a data bus element 410 connecting multiple modems (cards 400A with DSPs 414) handling the data from the connections of the subscriber lines, wherein the primary modem 400 is the first data-handling resource and the backup/local modem 402 is the second data-handling resource, the controller 404 directing the data connections between modems, when the first modem 400A with DSP 414 is idle, not appropriate to use or not turned to the normal (data should not direct to it, column 6 lines 15-20), the data from the connection is directed to the second/backup modem 402 (FIG.13A-13B, when the primary DSP session/connection is idle tested at 1210, the data is directed to the second/backup DSP at 1218) without loss the connection. The modems (elements 400A & 402) are connected to the memory (elements 420 and 430) to save and retrieve the internal information regarding the connections (column 13 lines 1-60) such as the data transformation information, session logs, etc. (column 13 lines 40-55, column 16 lines 35-40, wherein the activity table containing link control information, the record

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of the subscriber table containing the data transformation) which are dynamically/continually brought up to date to make available/usable by repeating the saving and retrieving during the connection and session, however it is well-known that the failure or removal of the first data-handling resource causing the link failure in terms the session does not turn to normal use (in idle) that Bellenger does not explicitly specify as well as the link control information.

Osler et al. teaches in FIG.2, column 3 lines 20-25 and column 4 lines 5-15 that the link failure or terminate link idles the modem session. Therefore, at the time of the invention, it would have been obvious to a person of ordinary skill in the art to have the Osler et al.'s teaching in Bellenger's condition comprising the resource failure or removal that causes the session idle by reset the modem software or terminate link to simplify the command set for the purpose of reduce the DSP circuitry complexity (column 2 lines 3-5).

Biba et al. teaches the data/packet (Fig_8) stored in the multiple-modem system/method in RAM 240 of FIG_7 and column 12 lines 1-5, wherein the data/packet containing the link control information: the frame acknowledgement ACK in Fig_8B. As Bellenger et al.'s multiple-modem system and method handling the data of multiple sessions or connections, at the time of the invention, it would have been obvious to a person of ordinary skill in the art to store the acknowledgement of the link control information taught by Biba et al. in the internal information to control the flow for the purpose of not losing data of the session and increasing the capacity by storing the link control info for the multiple connections (column 2 lines 40-45, column 3 line 10).

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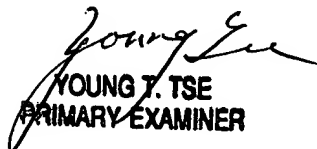
Regarding **claims 23 & 24**, Bellenger et al. discloses each data-handling resource/modem comprising a circuit card (element 400A, 402-408 FIG.4) with digital signal processor (elements 414-454 FIG.4).

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edith M Chang whose telephone number is 571-272-3041. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jayanti Patel can be reached on 571-272-2988. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Edith Chang
October 26, 2004


YOUNG T. TSE
PRIMARY EXAMINER